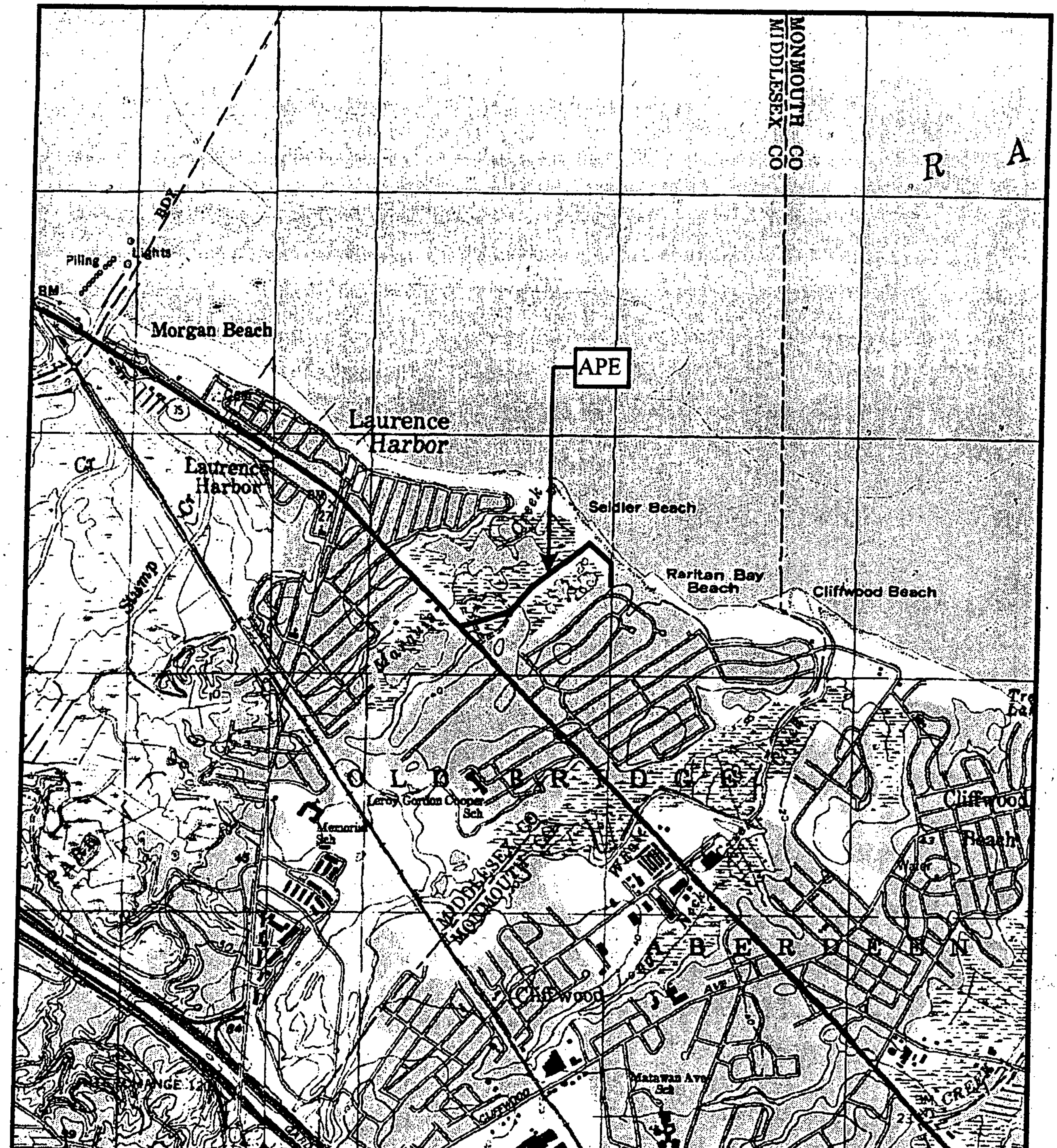

Figure 2:

Project Location (from U.S.G.S. 7.5' Quadrangles: Keyport, NJ-NY 1995 and South Amboy, NJ-NY 1995).

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SITE INVESTIGATION REPORT
FOR
OLD BRIDGE TOWNSHIP – MARGARETS CREEK PROPERTY
OLD BRIDGE TOWNSHIP, MIDDLESEX COUNTY
April 20, 2007

1. Preliminary assessment. Review of available environmental records was completed. The property, Block 1, lot 54.11, located on Route 35, is not listed in the State's Known Contaminated Sites or Solid Waste Disposal Area databases. The local health department, Middlesex County Department of Public Health, had no records on the property. Old Bridge Township – the site's owner- has no knowledge of the nature of the fill material.

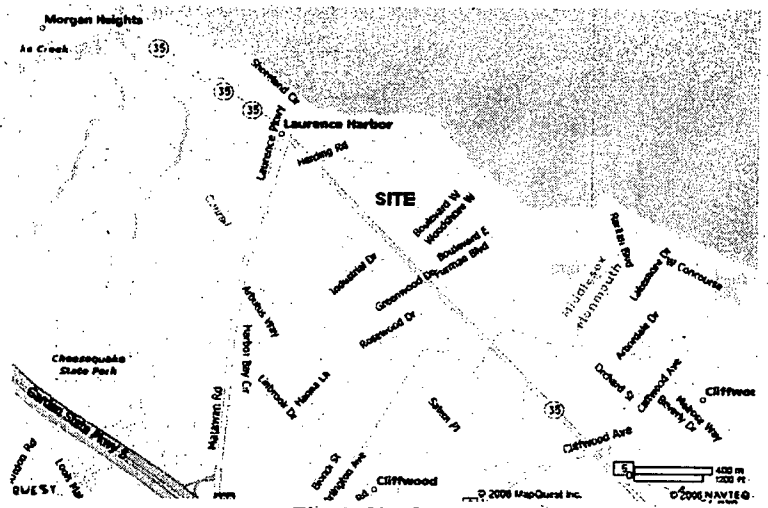

Fig. 1 Site Location

1.1 Review of histpric aerial photography revealed the subject to be, in 1930, tidal marsh – with a road traversing southwest –northeast from Route 35 to a cluster of stnictures on Raritan Bay. In 1974 the filling of a ± 20 acre portion of the site is apparent.


Fig. 2 1930

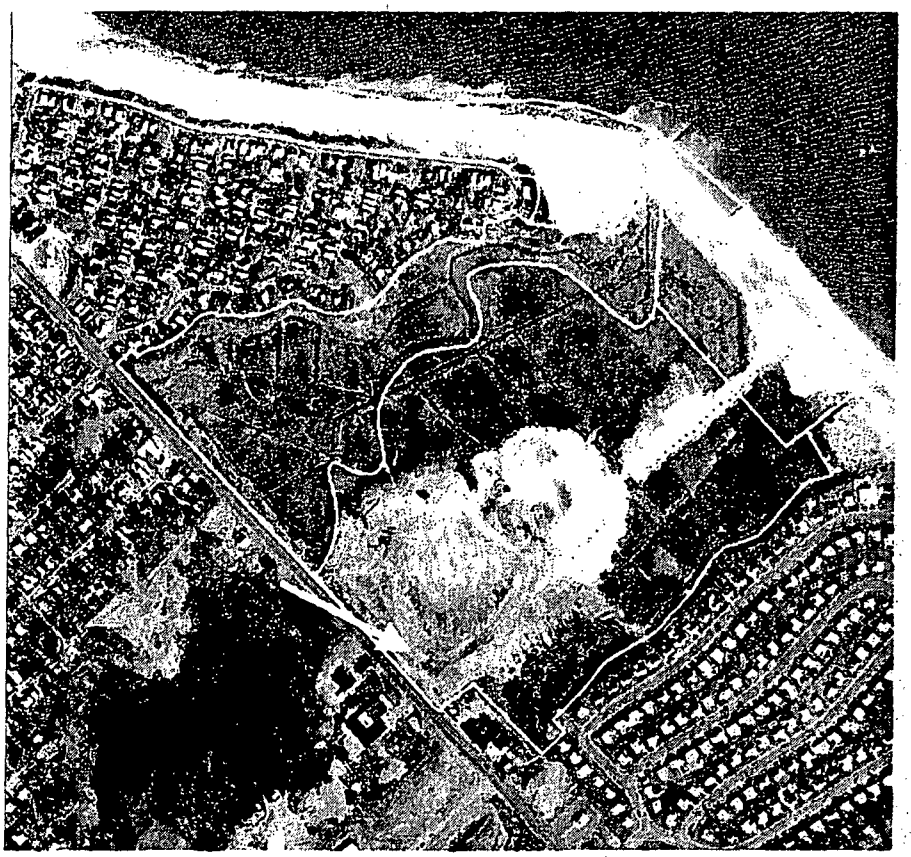

Fig. 3 1974 (Showing land fdling)

1.2 On December 13, 2006, a limited site investigation was completed to visually characterize fill material via excavation of test pits. Using a skid steer backhoe, representatives of the New Jersey Geological Survey completed 11 test pits biased (using historic aerial photography) to the thickest deposits of fill or based upon evidence of surficial waste materials. Test pits were excavated to native material. Only minor amounts of non-soil materials were encountered and in only one of 11 locations.

Waste materials were evident in numerous locations across the surface of the filled area, several of which included large quantities of what appeared to be shredded automotive battery casings, brick – including apparent refractory brick – and slag, suggesting possible disposal of industrial wastes (see Figures 4 & 5).

Fig. 4 Main access road, showing crushed car battery casings.

Fig. 5 Area of slag, refractory brick & miscellaneous solid waste.

2. Site Investigation.

2.1 Field work. On March 4, 2007, representatives of the Bureau of Enviromnental Measurements & Site Assessment collected 16 soil samples, biased to areas with accumulations of shredded battery casings and in areas devoid of vegetation in which refractory brick, slag and other waste materials were evident. Samples L-1 through L-13 were collected in areas of accumulated battery casings, for lead analyses. Saniples S-1 through S-4 were collected in areas devoid of vegetation in which refractory brick, slag and other waste materials were evident, for the complete Target Analyte List/Target Compound List analyses. The lead and TAL samples were collected in the 0-6" interval beneath waste materials. The TCL samples were collected at 6-12" bgs. Samples for volatile organic compound analyses were collected using Encore coring devices from within die boring.

2.2 Results. Lead was detected in all lead-only sample locations (L-1 though L-13) and at one TCL/TAL location (S-1) at concentrations above the non-restricted future use and restricted future use Soil Cleanup Criteria (400 ppm/600 ppm) with a concentration range of 701 ppm to 146,000 ppm, with an average concentration of 50,482 ppm (See Figure 6.)

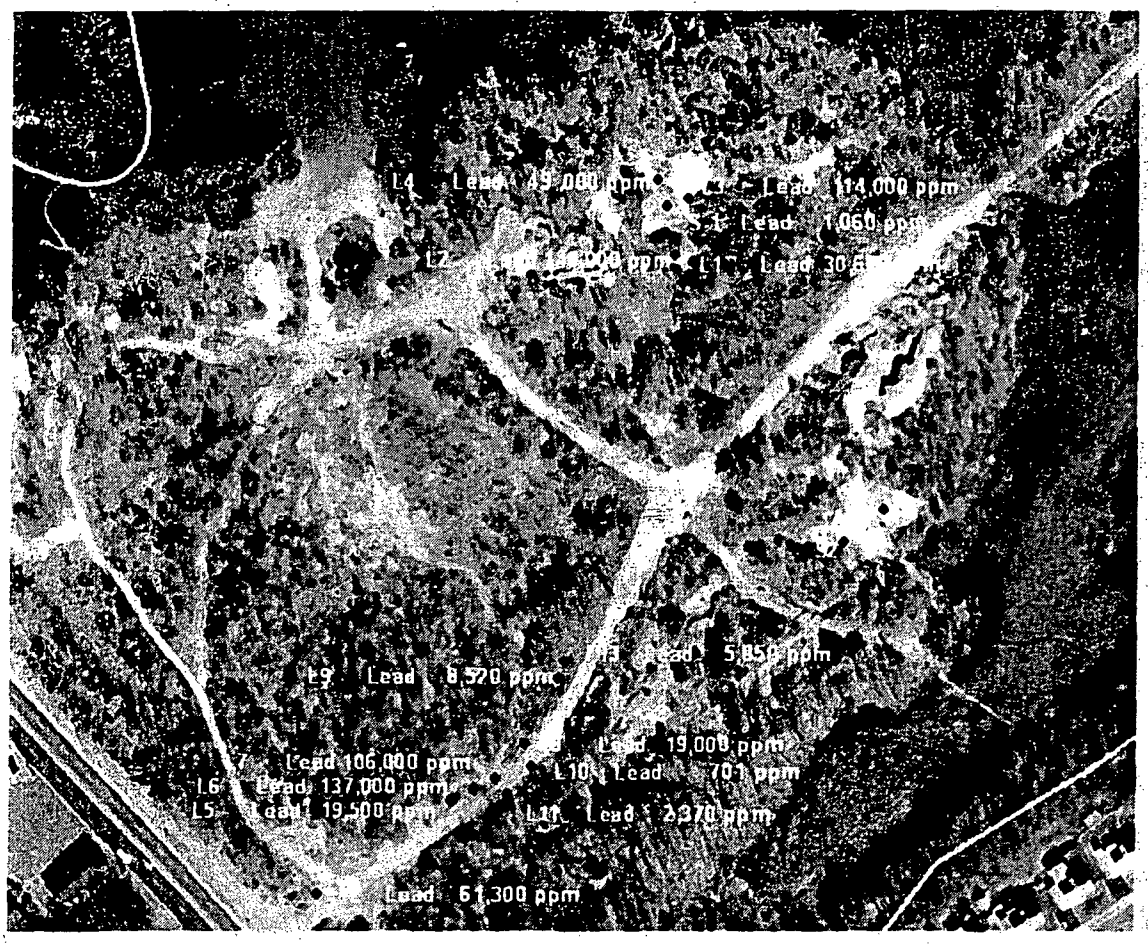

Fig. 6 Sample location map.

2.3 Discussion: The detected concentrations of lead significantly exceed the Department's human health-based Soil Cleanup Criteria. Ample visual evidence of human use of the site was observed during the site investigation, including footprints, bike/ATV tracks, campsites and promiscuous dumping.

In addition, the site is situated adjacent to sensitive environmental receptors – the wetlands and open water of the Margarets Creek and Raritan Bay. The site is mapped in the Department's Geographic Information System as "Critical Emergent Wetland" and as foraging habitat for a State-threatened species: the Black-Crowned Night Heron. The proximity of the contaminated areas to wetlands and open water suggests the possibility that contamination may be or may have migrated to these receptors via overland flow in surface runoff or via groundwater.

Given the sample results and potential receptors/exposures, this information was reported to the Department's Environmental Hotiine and was assigned case # 07-04-18-1110-28.

3. Recommendation. It is recommended that Green Acres not purchase this property. Old Bridge Township should be advised of the results of the site investigation and be urged to enter a Memorandum of Agreement with the Site Remediation & Waste Management Program to address the contamination. Green Acres may reconsider acquisition of the site upon receipt by the Township of a No Further Action determination by the Site Remediation & Waste Management Program.